PATENT NO.

: 6,883,574 B2

Page 1 of 9

APPLICATION NO.: 10/633926

DATED

: April 26, 2005

INVENTOR(S)

: Gregory M. Chapman

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

The Title Page showing an illustrative figure, should be deleted and substitute therefor the attached title page.

On the title page:

Item (54) "Title",

change "APPARATUS FOR APPLICATION OF

ADHESIVE TAPE TO SEMICONDUCTOR DEVICES" to --METHOD AND APPARATUS FOR APPLICATION

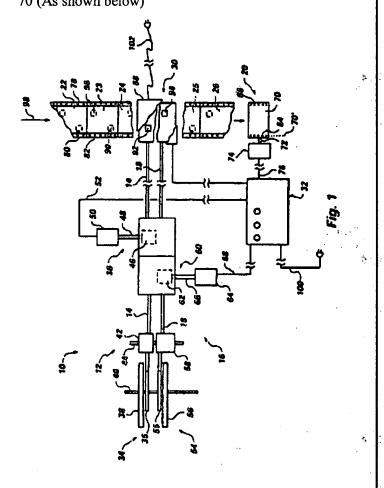
OF ADHESIVE TAPE TO SEMICONDUCTOR

DEVICES--

In the drawings:

In FIG. 1,

change existing lead line for reference numeral --86-- to accurately extend from teeth on right side of indexing roller 70 (As shown below)



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DATED

: April 26, 2005

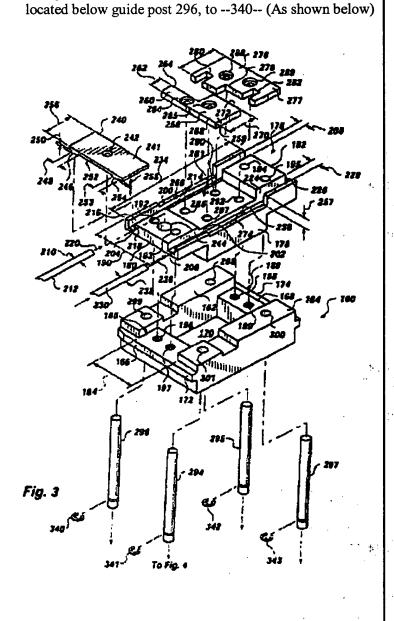
INVENTOR(S)

: Gregory M. Chapman

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In FIG. 3,

change lowermost second occurrence of reference numeral "260" located below reference numeral 290 to --261--; add reference numeral -- 184-- and an appropriate lead line to indicate a distance change first occurrence of reference numeral "341"



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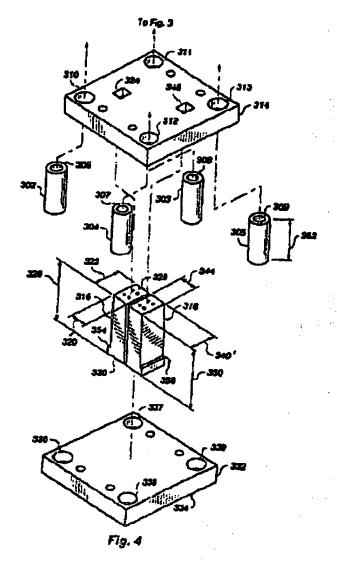
DATED: April 26, 2005

INVENTOR(S): Gregory M. Chapman

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In FIG. 4, change reference numeral "340" to --340'-- (As shown

below)



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APPLICATION NO DATED

.: 10/633926 : April 26, 2005

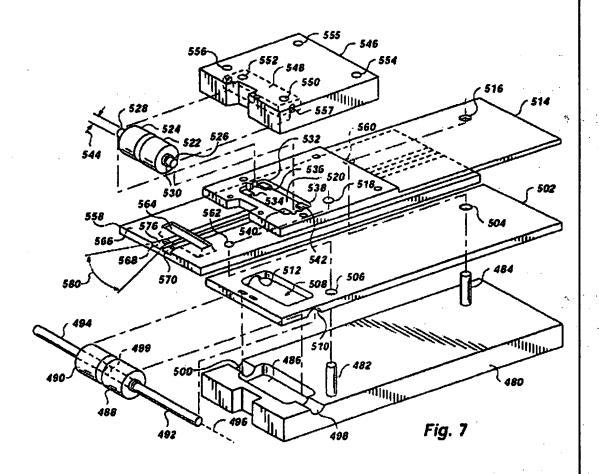
INVENTOR(S)

: Gregory M. Chapman

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In FIG. 7,

add reference numeral --562-- and associated lead line to aperture located left of reference numeral 540 (As shown below)



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B2 Page 5 of 9

DATED : April 26, 2005
INVENTOR(S) : Gregory M. Chapman

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In FIG. 12,

add reference numeral --568-- and an appropriate lead

line (As shown below)

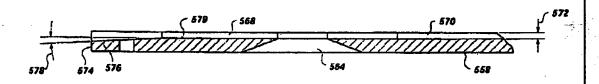


Fig. 12

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APPLICATION NO.: 10/633926 **DATED**

: April 26, 2005

INVENTOR(S)

: Gregory M. Chapman

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In FIG. 13,

add reference numeral --592-- and an appropriate lead

line (As shown below)

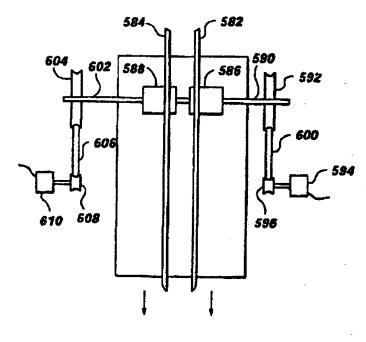


Fig. 13

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DATED

: April 26, 2005

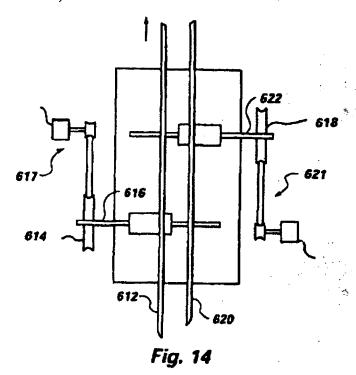
INVENTOR(S)

: Gregory M. Chapman

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In FIG. 14,

move existing reference numeral "618" and associated lead line to far right upper side of drawing, with lead line for --618-- extending from portion adjacent to 622; move existing reference numeral "614" and associated lead line to far lower left side of drawing, with lead line for --614-- extending from portion adjacent to 616; delete lead lines with out reference numerals (As shown below)



COLUMN 1, LINE 1,

change "APPARATUS FOR APPLICATION OF ADHESIVE TAPE TO SEMICONDUCTOR DEVICES" to --METHOD AND APPARATUS FOR APPLICATION OF ADHESIVE TAPE TO SEMICONDUCTOR DEVICES--

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APPLICATION NO.: 10/633926
DATED: April 26, 2005
INVENTOR(S): Gregory M. Chapman

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

COLUMN 1, LINE 47, change "lead-over chip" to --lead-over-chip--

COLUMN 7, LINE 52, after "die site" and before "of" insert --96--

COLUMN 9, LINE 20, change "thought he" to --through the--

COLUMN 10, LINE 24, change "show" to --shown--

COLUMN 11, LINE 8, change "rear cross member" to --rear cross member

168--

COLUMN 13, LINE 57, change "rings 341-343" to --rings 340-343--

COLUMN 13, LINE 59, change "length 340" to --length 340'--

COLUMN 14, LINE 6, change "340" to --340'--

COLUMN 14, LINE 8, change "340" to --340'--

COLUMN 14, LINE 15, change "bushings 302-315" to --bushings 302-305--

COLUMN 17, LINE 58, change "along right" to --along the right--

Signed and Sealed this

Third Day of March, 2009

John Ooll

JOHN DOLL
Acting Director of the United States Patent and Trademark Office

(12) United States Patent

Chapman

(10) Patent No.:

US 6,883,574 B2

(45) Date of Patent:

Apr. 26, 2005

(54) APPARATUS FOR APPLICATION OF ADHESIVE TAPE TO SEMICONDUCTOR DEVICES

(75) Inventor: Gregory M. Chapman, Meridian, ID

Micron Technology, Inc., Boise, ID Assignee:

(*) Notice: Subject to any disclaimer, the term of this

patent is extended or adjusted under 35

U.S.C. 154(b) by 0 days.

Appl. No.: 10/633,926

(22)Filed: Aug. 4, 2003

Prior Publication Data (65)

US 2004/0026044 A1 Feb. 12, 2004

Related U.S. Application Data

(60)	Continuation of application No. 09/875,632, filed on Jun. 6,
• •	2001, now Pat. No. 6,607,019, which is a continuation of
	application No. 09/330,794, filed on Jun. 14, 1999, now Pat.
	No. 6,267,167, which is a division of application No.
	No. 6,267,167, which is a division of application No. 08/908,291, filed on Aug. 7, 1997, now Pat. No. 6,096,165.

(51)	Int.	CI.7	***************************************	B32B	31/00
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(52) U.S. Cl. 156/433; 156/511; 156/517; 156/521

... 156/355, 433, (58) Field of Search 156/516, 517, 521, 511; 438/111, 112, 118,

(56)References Cited

U.S. PATENT DOCUMENTS

2,157,735 A	5/1939	Brite
3,177,629 A	4/1965	Anspach
3,308,000 A	3/1967	Holman
3 337 818 A	7/1967	MacT and

3,436,294	٨	4/1969	Магаро
3,536,550	Α	10/1970	Von Hofe
4,193,834	Α	3/1980	Bernardi
4,279,682	Α	7/1981	Hamagami et al.
4,317,695	Α		Asar Madhu P. et al.
4,539,058	Α	9/1985	Burgess et al.
4,646,127			Barnhart
4.862.245		8/1989	Pashby ct al.
4,985,105	A		Masuda
5,108,536			Sokolovsky et al.
5,286,679			Farnworth et al.
5,304,842	A	4/1994	Farnworth et al.
5,635,009		6/1997	Kawamura et al.
6.012.502		1/2000	Van Nortwick et al.
6,025,212			Van Nortwick et al.
6,096,165		8/2000	Chapman
6,099,678		8/2000	
6,267,167		7/2001	Chapman
6,607,019		8/2003	Charman

FOREIGN PATENT DOCUMENTS

JP	58-31514	2/1983
JP	04056159	2/1992

[•] cited by examiner

Primary Examiner-John T. Haran (74) Attorney, Agent, or Firm-TraskBritt

ABSTRACT.

A method and apparatus for application of adhesive tape to semiconductor devices are disclosed. A first adhesively coated tape material length is supplied to a first die associated with a cutting and application mechanism. A second length of adhesively coated tape material is also provided to a second die of the cutting and application mechanism. A plurality of LOC leadframes is supplied sequentially through the application structure to apply a first decal cut from the first tape material to a first die site at a first location and to apply a second decal cut from the second tape material to a second die site at a second location.

27 Claims, 13 Drawing Sheets

